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ABSTRACT

A field study was conducted to investigate the effect of gender, and gender combined with other variables on within-term changes in junior college student motivation. Intrinsic motivation (IM) refers to doing an activity for the pleasure and satisfaction derived from participating. Extrinsic motivation (EM) refers to engaging in behaviors as a means to an end. In the first week of the fall term, 2,434 students from a junior college in Quebec were asked to complete the Echelle de Motivation en Education (Academic Motivation Scale) and to provide additional personal data (i.e., name, age, academic program, hours of employment, terms completed, and place of residence). After 3 months, students were asked to complete the scale again. Study findings included the following: (1) pre-test mean scores differed significantly between male and female students, with the females tending to be more self-determined on IM, EM, and amotivation subscales; (2) post-test results revealed that the motivation of all students dropped significantly, though females remained significantly more motivated than males on all subscales; (3) male working students became less self-determined, while working did not seem to have a significant effect for female students; (4) a loss in self-determination took place for males during their first academic term, whereas for females the drop occurred during the second or third academic term. (Contains 70 references.) (KP)

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The Influences of Gender Differences on Within-Term Changes in Junior College Student Motivation.

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THE INFLUENCE OF GENDER DIFFERENCES ON WITHIN-TERM CHANGES IN JUNIOR-COLLEGE STUDENT MOTIVATION	**Presenting authors:**
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	CANADA

OBJECTIVES

The purpose of this field study is to investigate the effect of gender, and gender combined with other variables (such as type of academic program, number of hours spent on a part-time job during academic term, place of residence -with or without parents-, and number of terms completed), on within-term changes in junior-college student motivation.

The originality of the present study lies in that it focuses on student motivation change and how gender influences that change.

THEORETICAL FRAMEWORK

The concept of motivation has been studied from several perspectives (Freud, 1923; Hull, 1943; Skinner, 1953). One perspective which has proven useful over the past 20 years suggests that behaviour can be seen as intrinsically or extrinsically motivated (de Charms, 1968).

In general, intrinsic motivation (IM) refers to the fact of doing an activity for itself, and the pleasure and satisfaction derived from participation (Deci, 1975). Contrary to IM, extrinsic motivation (EM) pertains to a wide variety of behaviors where the goals of action extend beyond those inherent in the activity itself. They are behaviors which are engaged in as means to an end and not for their own sake (Deci, 1975). Originally, it was thought that EM referred to behaviors performed in the absence of self-determination and thus could only be prompted by external contingencies. However, Deci, Ryan and their colleagues (1985, 1991) have postulated a self-determination theory. According to this theory, various types of

EM exist, some of which are self-determined and may be performed through self-regulation. According to these researchers, there are four types of EM which can be ordered along a self-determination continuum. From lower to higher levels of self-determination, they are: *external* , *introjected* , *identified* and *integrated regulation*.

External regulation corresponds to EM as it generally appears in the literature. That is, behaviour is regulated through external means such as rewards and constraints. With *introjected regulation*, the individual begins to internalize the reasons for his actions. However, this form of internalization, while internal to the person, is not truly self-determined since it is limited to the internalization of past external contingenc. (Vallerand, Blais, Brière et Pelletier, 1989). To the extent that the behaviour becomes valued by the individual, and especially that it is perceived as chosen by the individual himself, then the internalization of extrinsic motives becomes regulated through *identified regulation*. The most self determined form of EM is referred to as *integrated regulation*. According to Deci and Ryan (1991), *integrated regulation* occurs when the individual's action is perceived as personally valued and freely done. Thus, *integrated* action is authentic.

An increasing amount of research has been undertaken to evaluate Deci and Ryan's EM formulation. The results consistently support the basic premises of the formulation. For instance, results from confirmatory factor analyses on the motivation scales have supported the presence of three types of EM in education (Ryan & Connell, 1989; Vallerand & al., 1989; Karsenti, 1993).

In addition to intrinsic and extrinsic motivation, Deci and Ryan (1985, 1991) have posited that a third type of motivational construct is important to consider in order to fully understand human behaviour. This concept is termed amotivation (AM). Individuals are amotivated when they do not perceive a link between outcomes and their own actions. They are neither intrinsically nor extrinsically motivated. They are non-motivated. Amotivation can be seen in many ways as similar to learned helplessness (Abramson, Seligman & Teasdale, 1978) since individuals will experience feelings of incompetence, and expectancies of uncontrollability. When students are in such a state, they perceive their behaviors as caused by forces out of their own control. Eventually, they may stop the behaviour (Vallerand & al. 1989).

Finally, it should be noted that Deci and Ryan (1985, 1991) have posited that the various types of motivation can be aligned on a continuum according to the level of self-determination. The types of motivation are: amotivation, extrinsic motivation (*external, introjected, identified* and *integrated regulation*) and intrinsic motivation (Figure 1).

The aim of this study is to investigate the possibility of gender-related differences in within-term changes in junior-college student motivation. This question stemmed from the works of Carone (1975) and Deci, Cascio, and Krusell (1973), among others, who found that certain rewards tended to have an adverse effect on the motivation of female, but not male, student subjects. Maccoby and Jacklin (1975) reviewed a large body of research and concluded that one of the most consistently found gender difference involves cognitive functioning. There is also both intuitive and empirical evidence for the differential socialization of male and female students. Female students are said to be trained, among other things, to inhibit independent assertiveness (Donelson & Gullahorn, 1977), to evaluate themselves in terms of others' approval (Bardwick, 1971), and to be given less competence-eliciting playthings (Williams, 1979). Green and Foster (1986: 36-38) argue that *"the classroom is not a very important area for the display of masculine competence (...). Girls, in contrast, have fewer other opportunities for displaying competence, are encouraged to prefer more passive pursuits (...)"*. Thus , it seems reasonable to assume that motivation may not occur under the same conditions for male and female.

METHOD

Subjects

Subjects were 2434 students (1597 female and 837 male) from a junior college in the Quebec educational system of the Montreal area (Quebec, Canada). Subjects had a mean age of 19 years.

Measures (Questionnaire)

In Canada, a new measure of motivation toward education, the *Echelle de Motivation en Education"* (*EME*)[1], has been developed by Vallerand and his colleagues (1989). The *EME* is based on the tenets of self-determination theory and is composed of five

[1] Known in English as the *Academic Motivation Scale* (AMS).

subscales assessing intrinsic motivation, three types of extrinsic motivation (*external*, *introjected*, and *identified regulation*)[2] , and amotivation. Extensive data supports the reliability and validity of the *EME*. Initial data provided support for the reliability (internal consistency and temporal stability), factorial validity and construct validity. There are 28 items in the *EME*. The rating is on a 1-7 scale with 7 representing maximum appropriateness. The *EME* assesses students' motivational styles toward academic activities. Similar to Ryan and Connell's *Self-Regulation Questionnaire* (1989), the *EME* assesses intrinsic motivation and external regulation, introjection and identification toward two main academic activities, "*going to school*" and "*doing homework*". In addition, the *EME* also assesses amotivation in the two types of academic activities. Thus, the *EME* assesses most of the concepts proposed in Deci and Ryan's theory. It should also be noted that the *EME* was developed for college students, while the Ryan and Connell scale is designed for elementary-school children.

Procedures

In the first week of the fall term, 2434 junior-college students were asked to complete the questionnaire described above (with some personal data: name, age, academic program, number of hours spent on a part-time job, number of term completed, and place of residence). Three months later, students were asked to complete the *EME* once again.

RESULTS

Motivation change scores for each subscale (intrinsic motivation, three types of extrinsic motivation and amotivation) were analyzed by means of separate analyses of variance.

Gender differences

Pre-test mean scores differed significantly between male and female students, with girls tending to be more self-determined on all the five subscales (Table 1 and Figure 2). Three months later, though post-test results revealed that the motivation of all

[2] Other studies showed that EM integrated is difficult to assess, therefore it was not included in the *Academic Motivation Scale*.

students dropped significantly, female students remained significantly more motivated (self-determined) than male students on all subscales (Table 2 and Figure 3). When examining motivation change, a main effect for gender was found for the intrinsic motivation scale, for the identified regulation (EM) scale, and for external regulation (EM) scale. A main effect for other variables was also found on at least one of the five motivation subscales.

The analysis of variance revealed a significant interaction between gender and the number of hours spent on a part-time job during the academic term, for the introjected and external regulation (EM) scale (Figures 4 & 5), as well as a significant interaction between gender and the number of terms completed, for the identified regulation (EM) and intrinsic motivation scale (Figures 6 & 7). Male working students become less self-determined whereas for female students work does not seem to have a significant effect. Also, for male students a loss in self-determination takes place during their first academic term whereas for female students the drop occurs in their second or third academic term.

Discussion

Our findings revealed that females were generally more self-determined (IM and EM *integrated* and *identified*) as well as less *externally regulated* and amotivated toward academic activities than males. These results are similar to those obtained in other studies conducted on elementary-school, high-school, or junior-college students and on elderly individuals. It is interesting to note that the female student's variation of motivation differs from that of the male student. Students' intrinsic motivation appears to drop faster for males than for females students, especially in the first academic term of junior college. However, contrary to IM, the least self-determined types of motivation (*external regulation* and amotivation) tend to increase for male students whereas they remain stable for female students. This rise is even more significant for male students holding a part-time job during their academic term. The existence of gender-related differences appears well supported and seems to extend generally across all levels of schooling. Because gender-related differences in motivational styles, with respect to both level of and within-term changes in motivation, seem to have important consequences, future research should focus on their antecedents.

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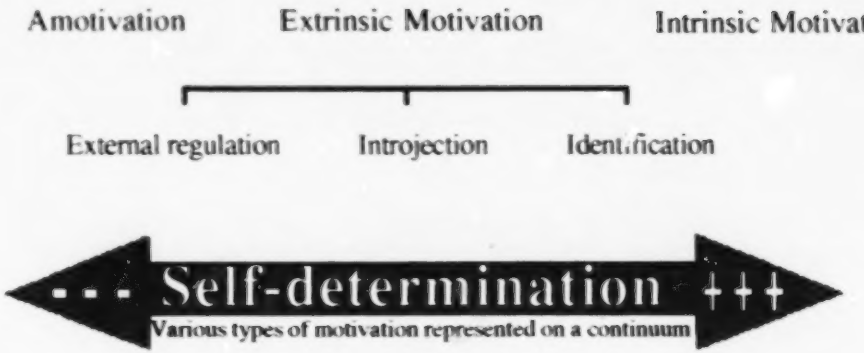

Figure 1
Representation of Deci & Ryan's self-determination theory (1985, 1991).

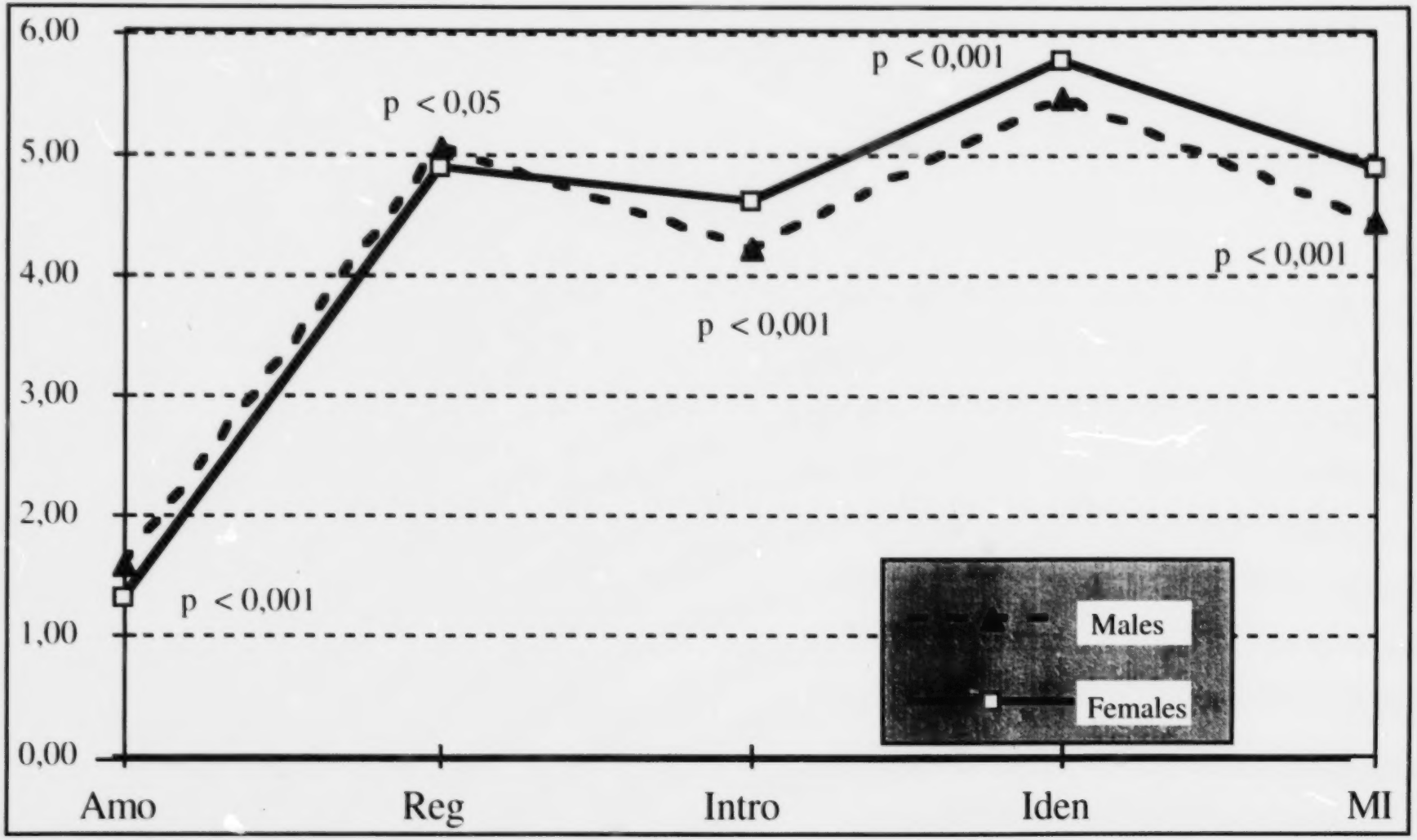

Figure 2

Initial level of the various types of motivation for males (837) and females (1597).

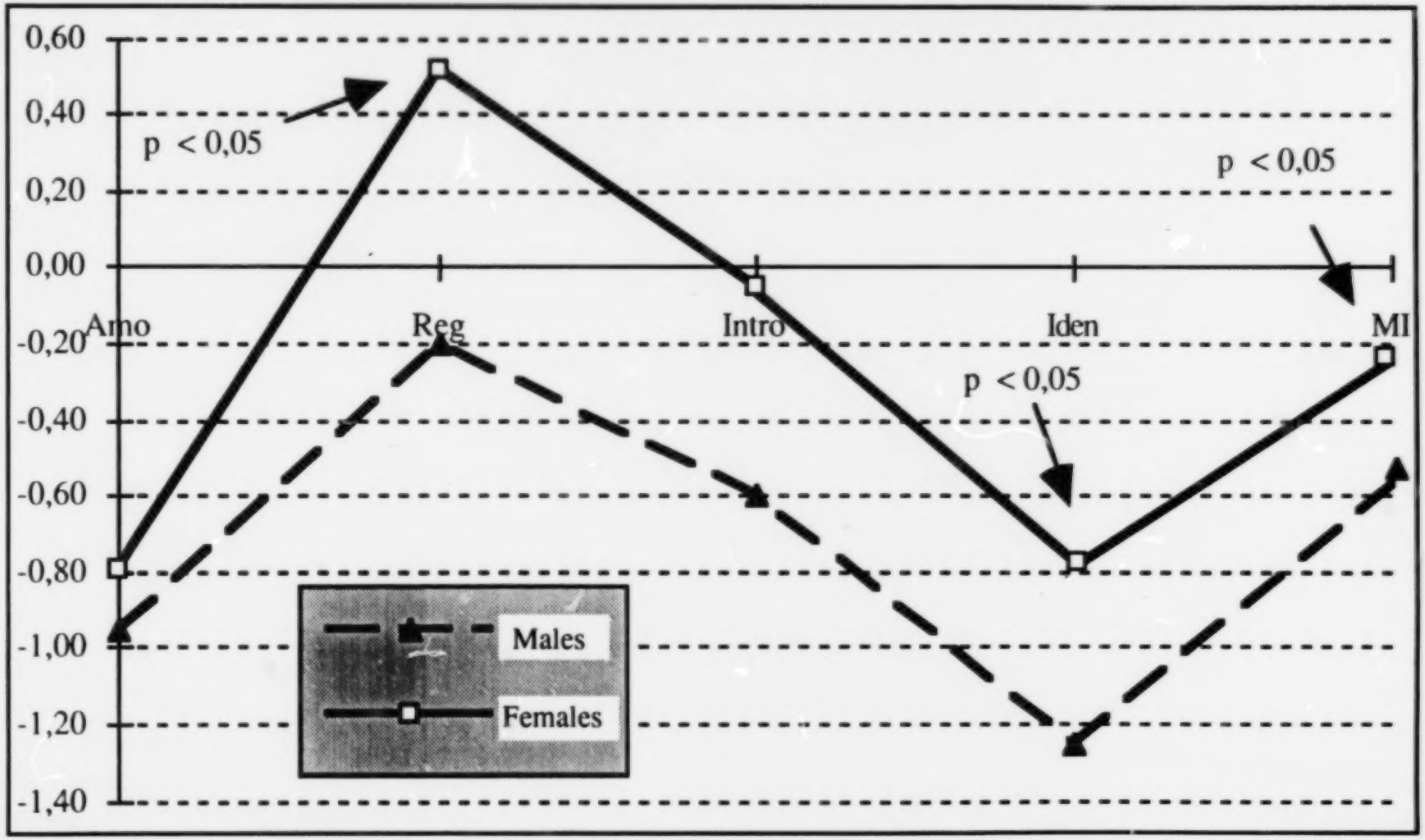

Figure 3
Change of motivation as a function of gender.

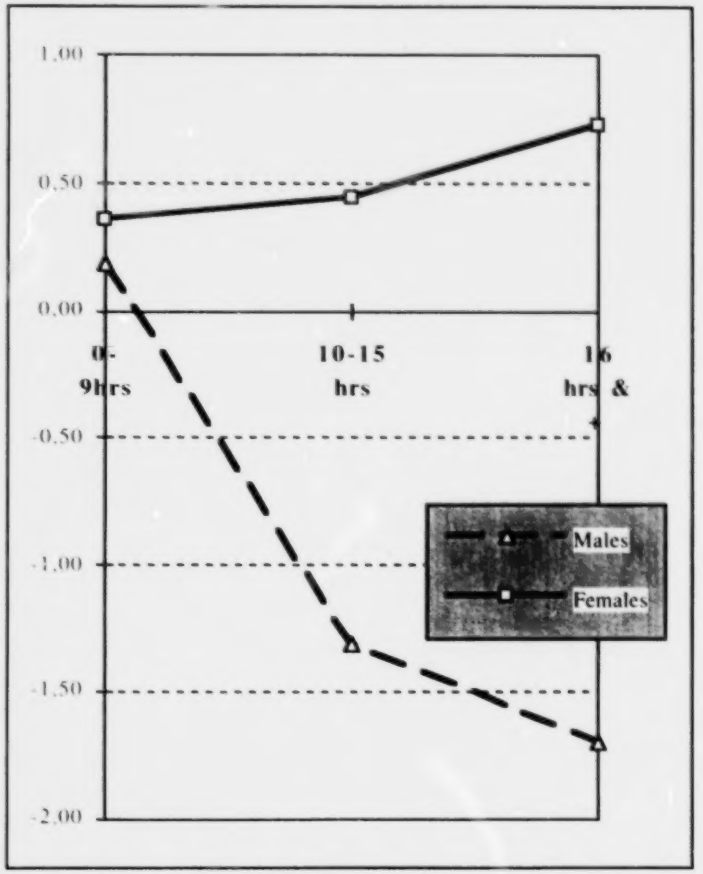

Figure 4

The effect of the interaction between *gender* and the *number of hours spent on a part-time job* on the change in *external regulation* (EM).

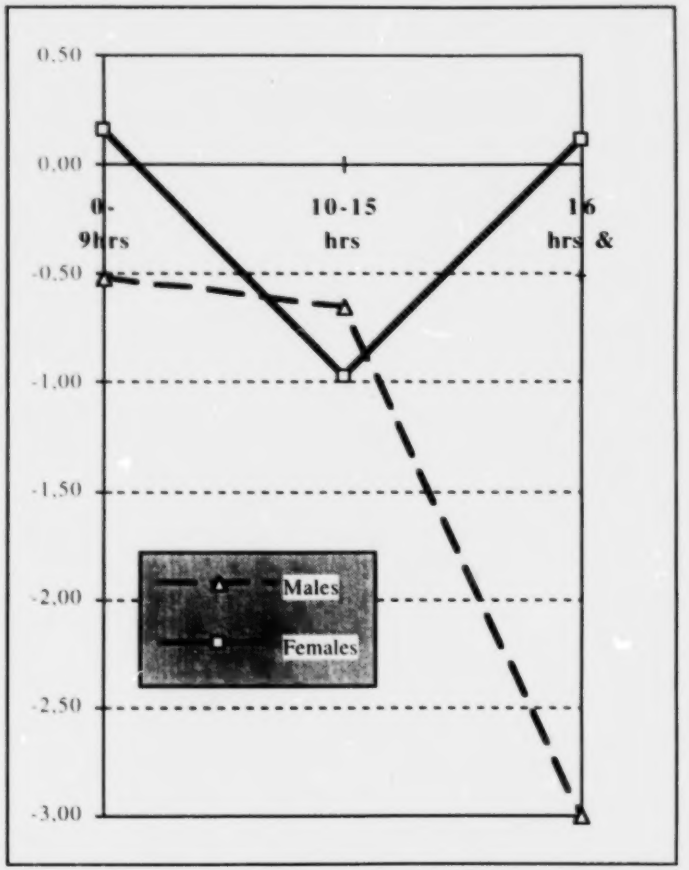

Figure 5

The effect of the interaction between *gender* and the *number of hours spent on a part-time job* on the change in *introjected* EM.

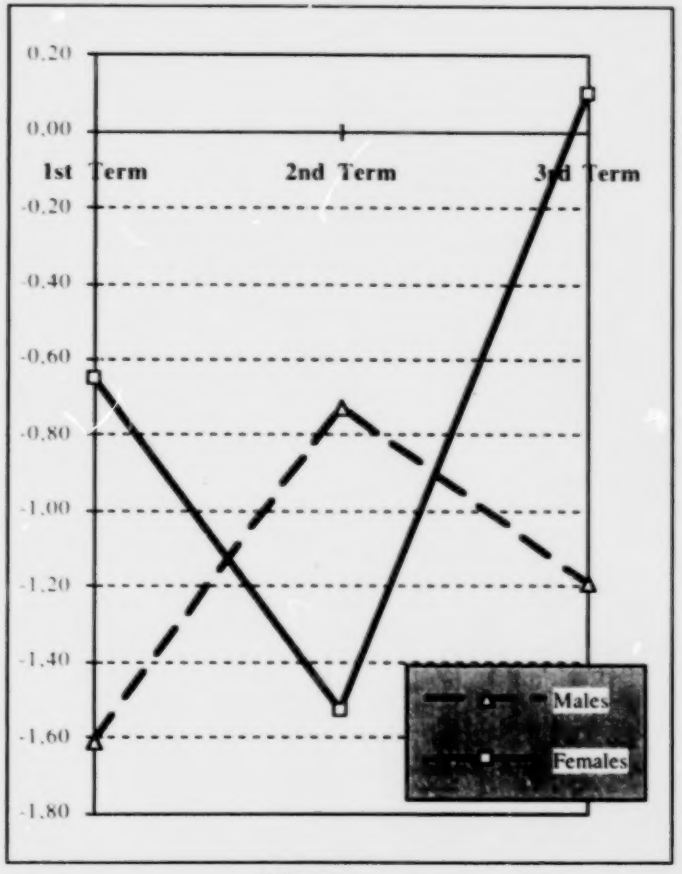

Figure 6

The effect of the interaction between *gender* and the *number of academic terms completed* on the change in *identified* EM.

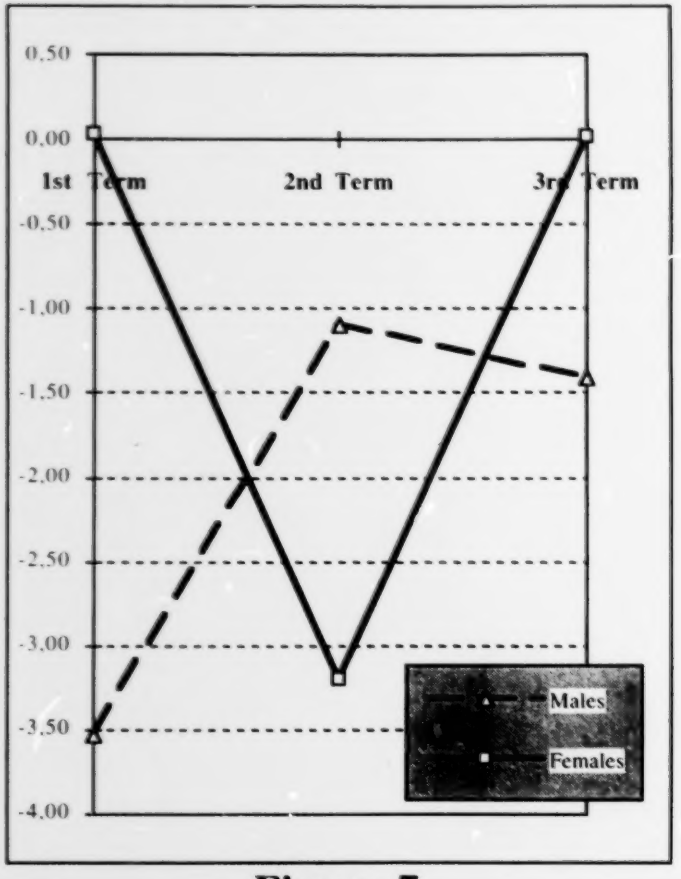

Figure 7

The effect of the interaction between *gender* and the *number of academic terms completed* on the change in IM.

Table 1 Comparison of students' initial (pre-test) levels of motivation (for the five subscales) with regards to individual characteristics

Variables	Level of significance (pre-test)									
	AM		EM *External regulation*		EM *Introjection*		EM *Identification*		IM	
	T	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*
Gender	-7.25	<0,001	-2.48	<0,05	5.55	<0,001	6.15	<0,001	8.74	<0,001
Nb of academic terms completed (0 vs 2)	-	N.S.	2.05	<0,05	-	N.S.	1.98	<0,05	-2.08	<0,05
Nb of hours spent on a part-time job (0 vs 10)	-	N.S.	-	N.S.	-	N.S.	-	N.S.	-	N.S.
Place of residence -with or without parents-	7.25	<0,001	2.48	<0,05	5.55	<0,001	6.15	<0,001	8.74	<0,001
Type of program (vocational vs gen.)	2.64	<0,01	-	N.S.	-	N.S.	-	N.S.	-	N.S.

Table 2 **Influence of gender and other variables on the change of motivation** (ANOVA)

Variables	**Level of significance**									
	AM		**EM** *External regulation*		**EM** *Introjection*		**EM** *Identification*		**IM**	
	F	***P***	***F***	***P***	***F***	***P***	***F***	***P***	***F***	***P***
Gender	-	N.S.	6.09	<0,05	-	N.S.	3.13	<0,05	4.28	<0,05
Nb of academic terms completed	-	N.S.	-	N.S.	-	N.S.	-	N.S.	3.75	<0,05
Nb of hrs spent on a part-time job	-	N.S.	-	N.S.	-	N.S.	-	N.S.	8.13	0,01
Place of residence	-	N.S.	7.30	<0,001	-	N.S.	-	N.S.	-	N.S.
Type of program	3.41	<0,05	-	N.S.	-	N.S.	-	N.S.	-	N.S.
INTERACTIONS										
Gender X Job	-	N.S.	7.09	<0,001	6.10	<0,001	-	N.S.	-	N.S.
Gender X nb /terms	-	N.S.	-	N.S.	-	N.S.	3.98	<0,05	5.25	<0,005